



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,506	03/12/2001	Masahiko Shimizu	FUSA 18.444	1979
26304	7590	09/03/2004	EXAMINER	
KATTEN MUCHIN ZAVIS ROSENMAN 575 MADISON AVENUE NEW YORK, NY 10022-2585			BAYARD, EMMANUEL	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,506

Applicant(s)

SHIMIZU ET AL.

Examiner

Emmanuel Bayard

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 2 recites the limitation "the overall transceiver" in lines 7-8. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Phillips et al U.S. patent No 6,597,727 B2.

As per claim 1, Phillips et al discloses a synchronization tracking circuit for synchronizing the phase of a dispreading code sequence on a receiving side to the phase of a spreading code sequence on a transmitting side, comprising: A DLL circuit for performing

Art Unit: 2631

synchronization tracking by DLL control (see figs. 3, 10a 10b elements 316, 562, 562a 562b and ol.20, lines 35-36 and col.37, lines 4-18); and estimating unit for estimating an interference component (see figs. 2-3, 10a elements 310, 560, 566 and col.19, lines 60-61 and col.37, lines 9-25) inflicted by another path upon a prescribed path of interest among multiple paths; wherein said DLL circuit executes control for causing the phase of the despreading code sequence on the receiving side to be synchronized with and track the phase of the spreading code on the transmitting side based upon a signal obtained by eliminating the interference component, which is inflicted from the other path, from the despread signal obtained by despread a received signal (see col.7, lines 42-52 and col.15, lines 1-26 and col.19, lines 1-55 and col.20, lines 35-40 and col.22, lines 10-27 and col.26, lines 17-23).

As per claim 2, the circuit of Phillips does teach estimating the interference component inflicted by other path (see fig.10a elements 560, 566) and impulse response (see col.14, lines 63-65) of a transceiver

As per claim 3, Phillips et al does teach a despreader for despreading the receive signal (see fig.10a element 530); an interference component elimination unit (see fig.10a elements 560, 566) for eliminating component from the despread signal; a phase control signal generator for controlling the despreading code sequence (see fig.10a element 565 and col.37, lines 15-23).

As per claim 4, Phillips et al inherently teaches eliminating interference component from path-to-path delay time difference.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2631

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al U.S. patent No 6,597,727 B2 in view of Katz et al U.S. Patent No 6,697,640 B1.

As per claim 5, Phillips et al teaches all the features of the claim invention except an impulse response generator for storing impulse responses values discretely and outputting an impulse response value that corresponds to an inter-path delay time difference; wherein said impulse response generator approximates an impulse response value by $\frac{1}{2}$ of a peak value and includes a storage unit for storing correspondence between time and n discretely and arithmetic for obtaining n of a time that conforms to the inter-path delay time difference and calculating an impulse response upon shifting the peak value by n bits.

Katz et al teach impulse response generator for storing impulse responses (see col.5, lines 55-67) values discretely and outputting an impulse response value that corresponds to an inter-path delay time difference (see col.6, lines 8-25); wherein said impulse response generator approximates an impulse response value by $\frac{1}{2}$ of a peak value and includes a storage unit for storing correspondence between time and n discretely and arithmetic for obtaining n of a time that conforms to the inter-path delay time difference and calculating an impulse response upon shifting the peak value by n bits (see col.6, lines 1-67 and col.7, lines 1-50).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Katz into Phillips as in order to accurately compare the various delays to different channels and determine the maximum signal as being the signal which has followed the path with a minimum attenuation as taught by Katz (see col.7, lines 31-45).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nishizawa U.S. patent No 6,680,981 B1 teaches 45-degree shift QPSK modulator.

Ariyoshi et al U.S. patent No 6,597,676 B1 teaches a CDMA communication.

Kaku U.S. patent No 6,104,748 teaches a spread spectrum signal receiving apparatus.

Bruckert et al U.S. patent No 5,659,573 teaches a method and apparatus for coherent reception.

Murai et al U.S. patent no 6,154,487 teach a spread spectrum signal receiving method.

Inoue et al U.S. Patent No 6,650,692 B2 teaches a CDMA receiver.

Miura U.S. patent NO 6,33,934 B1 teaches a CDMA receiving apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016.

The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 571 272 3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

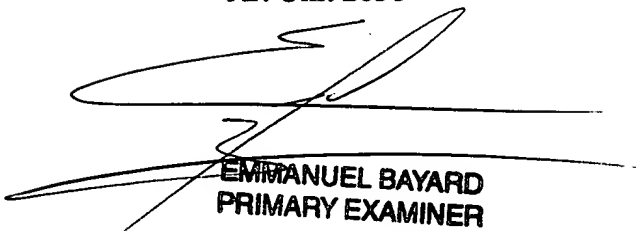
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/804,506
Art Unit: 2631

Page 6

8/30/04

Emmanuel Bayard
Primary Examiner
Art Unit 2631



EMMANUEL BAYARD
PRIMARY EXAMINER